App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 1 of 21

1a-g

1a: $R = (CH_2CH_2O)_5 - CH_2CH_2$

1b: $R = (CH_2)_3$

1c: $R = (CH_2CH_2O)_2 - CH_2CH_2$

1d: $R = CH_2CH(CH_2OH)$

1e: $R = (CH_2)_4$

1f: R = 1',2'-dideoxyribose

1g: $R = (CH_2)_6$

App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc. Sheet 2 of 21

App No.: Not Yet Assigned
Inventor: Karen L. FEARON, et al
Docket No.: 377882002021
Title: CHIMERIC IMMUNOMODULATORY, etc.
Sheet 3 of 21

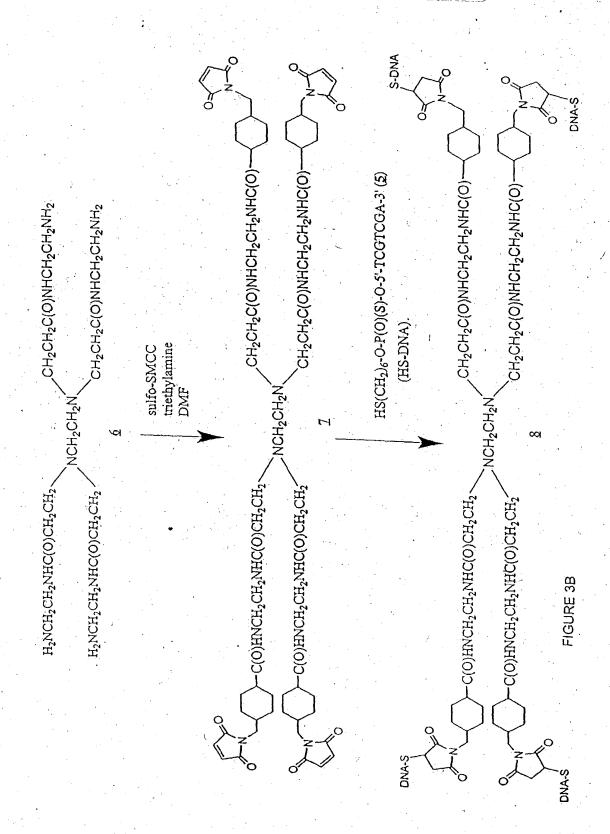
HO-(CH2)6-S-S-(CH2)6-O-P-(O)(S)-O-5'-TCGTCGA-3'

HS-(CH2)6-O-P-(O)(S)-O-5'-TCGTCGA-3'

FIGURE 3A

App No.: Not Yet Assigned
Inventor: Karen L. FEARON, et al
Docket No.: 377882002021
Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 4 of 21



Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 5 of 21

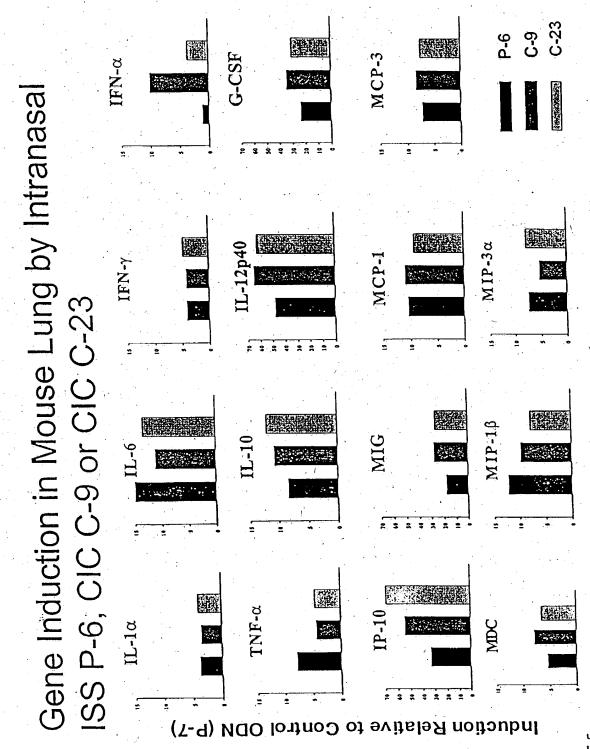
TMEA

C-105

FIGURE 4

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 6 of 21



App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc. Sheet 7 of 21 ALL ISS/CIC doses 20 μg -0008 0009 4000

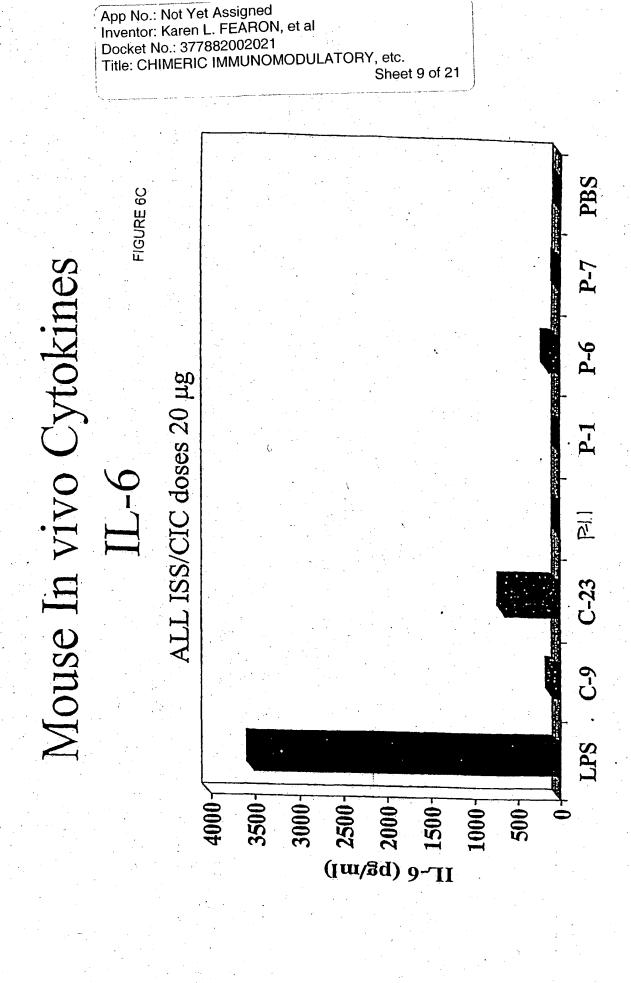
(lm/gq) 04/q 21-11

-Mouse In vivo Cytokines

Inventor: Karen L. FEARON, et al. Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc. Sheet 8 of 21 FIGURE 6B P-7 Mouse In vivo Cytokines ALL ISS/CIC doses 20 µg P-1 -009 400-800

TNFa (pg/ml)

App No.: Not Yet Assigned



App No.: Not Yet Assigned
Inventor: Karen L. FEARON, et al
Docket No.: 377882002021
Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 10 of 21

Figure 7A

App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc. Sheet 11 of 21

Figure 7B

Docket No.: 377882002021 Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 12 of 21

Figure 8A

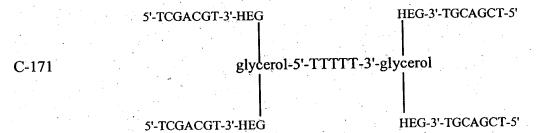
Figure 8B

5'-TCGTCGA-3'-HEG

glycerol-HEG-5'-TCGTCGA-3'

5'-TCGACGT-3'-HEG

Figure 8C



Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 13 of 21

Figure 8D

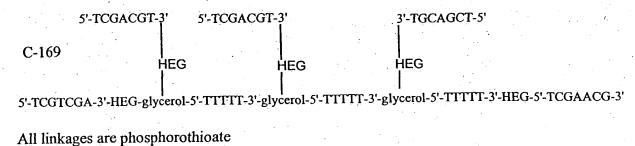
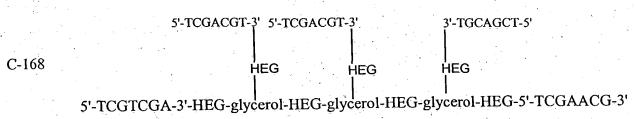
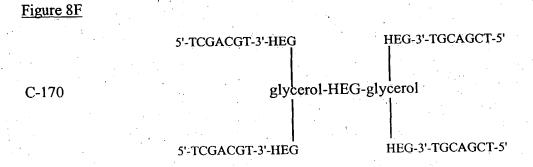


Figure 8E



All linkages are phosphorothioate



Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 14 of 21

Figure 8G

PEG = polyethylene glycol total MW approx. 10,000 Da

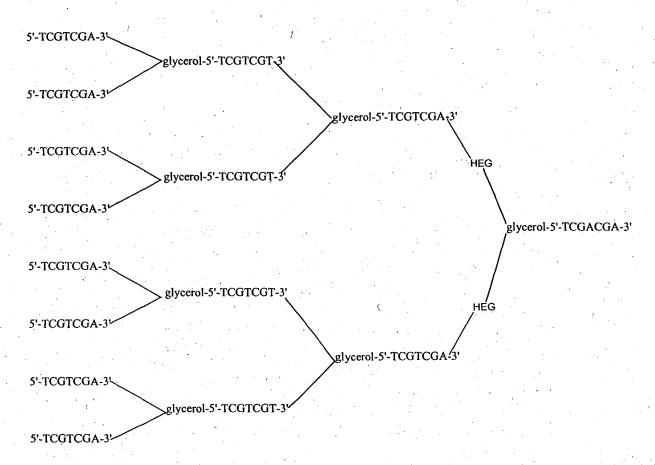
5'-TCGACGT-3'-HEG-C3-SH

Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 15 of 21





Sheet 16 of 21 Figure 9C Figure 9B 5'-TCGATTCGAGCG-3'-HN-5'-TAAATAATAGCTAGCAAGCTCGCTG- H_{N_i} -CAGCGAGCTTGCTAGCTATTGCTAGCT-5' TAGCTAGCAAGCTCGCTG-H_N-TCCCAAAAAAAAAAAAAAAA ATCGATCGTTCGAGCGAC-H, GTCGCTCGAACGATCGAT ATCGATCGTTCGAGCGAC-H_N-AGGGTTTTTTTTTTTTTT TAGCTAGCAAGCTCGCTG-H_N-CAGCGAGCTTGCTAGCTA 3 "-TTCTAGCAAGCTCGCTTAAGCGAGCTTGCT-5"-HN-3"-GCGAGCTTAGCT TCGTTCGAGCGAATTCGCTCGAACGATCTT-3 - GTCGCTCGAACGATCGATTTAACAAAC

App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al.

Title: CHIMERIC IMMUNOMODULATORY, etc.

Figure 9A

Docket No.: 377882002021

TCG [T], CGC-H-[A], CGCCG HEG-3'-TGCAGCT-5' HEG-3'-TGCAGCT-5' [T] GCGGC-H-AGC [A] GCGCT 3'-AACCGGTTCGAACCGGTT-5'-HEG-glycerd TCG [T], CGC-H- [A], CGCCG glycerol-HEG-5'-TTGGCCAAGCTTGGCCAA-3' [T], GCGGC -H- AGC[A], GCGCT C-167 after annealing in the presence of salt TCG[T] CGC H [A] CGCGG S'-TCGACGT-3'-HEG S-TCGACGT-3'-HEG

App No.: Not Yet Assigned Inventor: Karen L. FEARON, et al Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.
Sheet 17 of 21

Linkages are all phosphorothioate

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 18 of 21

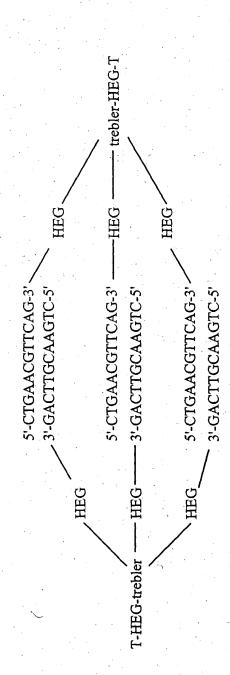
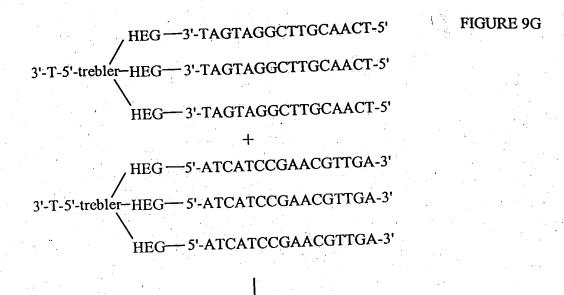


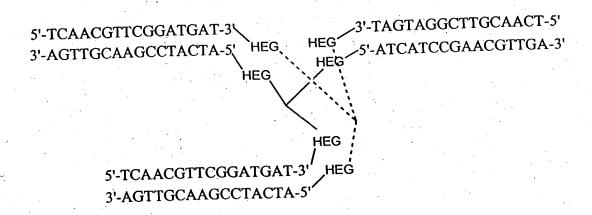
Figure 9F

Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 19 of 21





Junction of long bonds represents the trebler-5'-T-3'

Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 20 of 21



Human IFN-γ

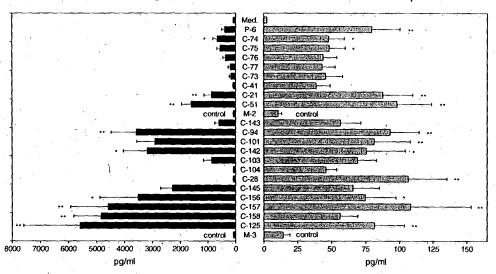


FIGURE 10

Docket No.: 377882002021

Title: CHIMERIC IMMUNOMODULATORY, etc.

Sheet 21 of 21

Human B cell proliferation

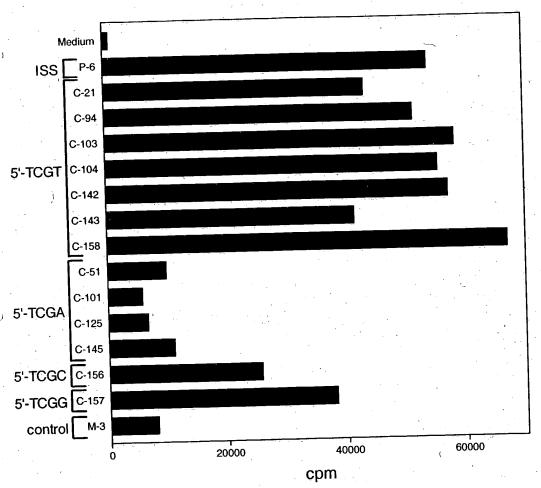


FIGURE 11